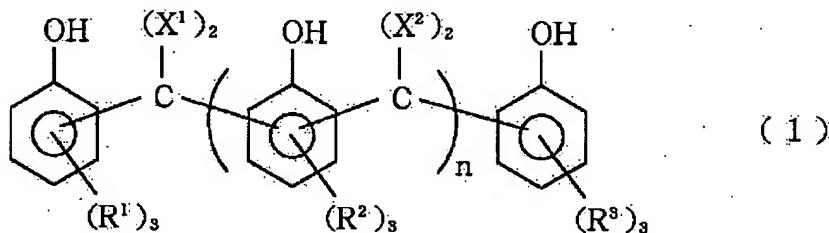


## CLAIMS

1. A field effect transistor comprising at least a substrate, an organic semiconductor layer, an insulating layer, and a conductive layer, wherein

5 the insulating layer comprises a cured product of a phenol resin represented by a following general formula (1):



(wherein, R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are each independently at least one selected from the group consisting of hydrogen atom, halogen atom, hydroxymethyl group, alkyl group having 1 to 12 carbon atoms, alkenyl group, alkinyl group, alkoxy group, alkylthio group, and alkyl ester group, X<sup>1</sup> and X<sup>2</sup> are each independently at least one selected from the group consisting of hydrogen atom, alkyl group having 1 to 12 carbon atoms, alkenyl group, alkinyl group, and aryl group, and n is an integer of 0 to 2,000.)

2. The field effect transistor according to claim 1, wherein the conductive layer comprises a gate electrode, a source electrode, and a drain electrode, the insulating layer includes a gate

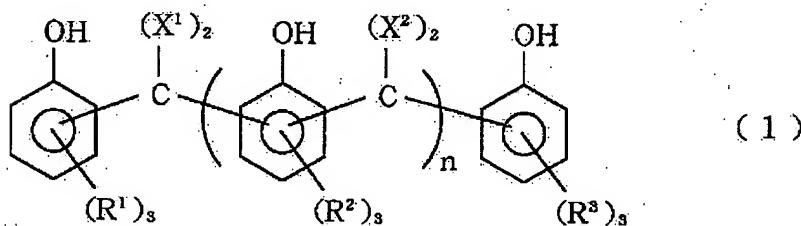
insulating layer, and the gate insulating layer is a cured product of a phenol resin represented by the above general formula (1).

3. The field effect transistor according to  
5 claim 2, wherein the thickness of the gate insulating layer is 100 nm to 1  $\mu\text{m}$ .

4. The field effect transistor according to any one of claims 1 to 3, wherein part or all of the conductive layer comprises an agglomerate of  
10 conductive fine particles having a primary particle diameter of 5 nm to 2  $\mu\text{m}$ .

5. A process for producing a field effect transistor comprising a substrate, an organic semiconductor layer, an insulating layer, and a  
15 conductive layer, the process comprising the steps of:

coating a thermosetting resin composition containing at least a phenol resin represented by the following general formula (1):



(wherein,  $R^1$ ,  $R^2$  and  $R^3$  are each independently at

least one selected from the group consisting of hydrogen atom, halogen atom, hydroxymethyl group, alkyl group having 1 to 12 carbon atoms, alkenyl group, alkinyl group, alkoxy group, alkylthio group, and alkyl ester group,  $X^1$  and  $X^2$  are each independently at least one selected from the group consisting of hydrogen atom, alkyl group having 1 to 12 carbon atoms, alkenyl group, alkinyl group, and aryl group, and n is an integer of 0 to 2,000.) and

5 heating it to form the insulating layer.

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6. The process for producing a field effect transistor according to claim 5, wherein part or all of the conductive layer is formed by applying a solution, dispersion, or paste of a conductive material or a precursor of the conductive material and heating it.

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7. The process for producing a field effect transistor according to claim 5, wherein the softening point of the phenol resin contained in the 20 thermosetting resin composition is in the range of 70 to 130°C.